

**Information Technology Policy and Strategy Committee
Architecture and Standards Technical Advisory Group
Web Standards Work Group
State of Utah**

January 9, 2001

State of Utah Web Standards

1.0 Introduction

The standards and recommendations in this document are applicable to all State of Utah executive branch agency Web sites that are accessed by the public. State of Utah Intranet sites may be exempted from some of the accessibility provisions depending upon the needs of the user audience for the site. The provisions of these standards are designed to make State of Utah Web sites more accessible and to be compliant with generally accepted Web standards on a worldwide basis.

2.0 Accessibility: The Web poses new challenges and obstacles for users with disabilities. In order to ensure equal access to electronic information the State of Utah has established standards to guarantee accessibility to users with visual, physical, or developmental disabilities.

- 2.1 *Accessibility Standard:* Utilize the latest version of the section 508 §1194.22 Guidelines as referenced at <http://www.webaim.org/news/508-excerpts.php>. World Wide Web Consortium Web Content Accessibility Guidelines at <http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990505>, may also be used, but the section 508 §1194.22 Guidelines constitute the legal requirement for the State. The W3C standard includes the following checkpoints based on the checkpoint's impact on accessibility.

Priority 1: A Web content developer must satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document. Satisfying this checkpoint is a basic requirement for some groups to be able to use Web documents. This will be the minimum level of accessibility required by all State Web sites with the inclusion of paragraphs (l) through (p) of §1194.22.

Priority 2: A Web content developer should satisfy this checkpoint.

Priority 3: A Web content developer may address this checkpoint.

- New web sites must utilize this standard.
- Existing Web sites must meet the standard as quickly as agency resources permit.

§ 1194.22 Web-based intranet and internet information and applications.

(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).

(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.

(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.

(d) Documents shall be organized so they are readable without requiring an associated style sheet.

(e) Redundant text links shall be provided for each active region of a server-side image map.

(f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.

(g) Row and column headers shall be identified for data tables.

(h) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.

(i) Frames shall be titled with text that facilitates frame identification and navigation.

(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

(k) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.

(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.

(m) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with §1194.21(a) through (l).

(n) When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

(o) A method shall be provided that permits users to skip repetitive navigation links.

(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.

Note to §1194.22: 1. The Access Board interprets paragraphs (a) through (k) of this section as consistent with the following priority 1 Checkpoints of the Web Content Accessibility Guidelines 1.0 (WCAG 1.0) (May 5, 1999) published by the Web Accessibility Initiative of the World Wide Web Consortium:

Section 1194.22 Paragraph	WCAG 1.0 Checkpoint
(a)	1.1
(b)	1.4

(c)	2.1
(d)	6.1
(e)	1.2
(f)	9.1
(g)	5.1
(h)	5.2
(i)	12.1
(j)	7.1
(k)	11.4

2. Paragraphs (l), (m), (n), (o), and (p) of this section are different from WCAG 1.0. Web pages that conform to WCAG 1.0, level A (i.e., all priority 1 checkpoints) must also meet paragraphs (l), (m), (n), (o), and (p) of this section to comply with this section. WCAG 1.0 is available at <http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990505>.

3.0 Content and Presentation

- 3.1 *State of Utah Identifier:* Each page in the Web site must have a State of Utah identifier, and an agency identifier. Identifiers can be either graphic or text representations. Examples of commonly used graphic state identifiers include the following:



Agency specific graphic logos and logotypes are another acceptable method for identifying the Web site as a State of Utah agency site.

Text identifiers commonly include the phrase "State of Utah" and are often followed or preceded by the name of the agency, such as "Governor's Office of Planning and Budget", or "Utah State Library Division" followed by the department name "Department of Community and Economic Development." Text messages should accomplish the purpose of identifying the Web site as a State agency site. No specific naming standards are required.

- 3.2 *Home Page Links:* Each site, including but not limited to agency and division sites must link back to their own home page for consistency in site navigation.
- 3.3 *State of Utah Home Page Link:* Each agency Web site must have a link to the State of Utah Home Page at www.state.ut.us or alternatively to www.eutah.org. This link can be a textual reference such as "State of Utah Web Site" or a graphic identifier as illustrated in section 3.1.
- 3.4 *Contact Information:* Each agency home page must contain contact information including but not limited to: emails, phone numbers and a street addresses for the agency. Contact information graphics or hyperlinks that lead the user to this information are also acceptable.

- 3.5 *Disclaimer:* Agency Web sites should provide a disclaimer for the site and for each page as deemed necessary by agency management. Some agencies may require specific types of disclaimers based upon site content. The disclaimer approved by the ITPSC is included in Appendix A. and at <http://www.eutah.org/disclaimer.html>.
- 3.6 *Privacy Statement:* Agency Web sites should provide a privacy statement for the site and for each page as deemed necessary by agency management. The privacy statement approved by the ITPSC is included in Appendix B. and at <http://www.eutah.org/privacy.html>.
- 3.7 *Meta Tags:* Each page of the Web site should have title, author, description, and keyword Meta tags as a minimum standard.
- 3.8 *Link Verification:* Links should be checked regularly to maintain accuracy and to avoid user frustration with broken links.
- 3.9 *Site Search Capabilities:* Each agency Web site should have a search engine specific to the agency site. *Yeehaw* or other 3rd party search engines can be utilized.
- 3.10 *Agency Information:* Each agency Web site should have an “about” section that describes the functions of the agency and the services provided.
- 3.11 *Copyright (Agency Produced Information):* Most state produced publications and Web materials are public domain and available for use by others without restriction. Exceptions may include materials produced under outside contracts where the contractor retains copyright.
- 3.12 *Copyright (Fair Use):* Agencies are advised to exercise caution in using digital material downloaded from the Internet in producing their Web sites, because there is a mix of works protected by copyright and works in the public domain on the Web. All agencies will abide by national and international copyright laws.

4.0 Development and Site Implementation

- 4.1 *Communication:* When agencies make changes to URL addresses on agency Web sites, other state Web masters, and eUtah should be notified. Change notifications are provided to prevent broken links on sites linking to agency pages. Notification can be accomplished by publishing URL changes to the Web Masters List Serve.
- 4.2 *Content Approval:* Agency Web sites should have a formal process in place for content approval by appropriate agency management. Agency directors are ultimately responsible for all Web content on the agency site.
- 4.3 *Staging:* Agencies should use staging sites as a part of the site development and approval process.
- 4.4 *Web Development Tools:* The State of Utah utilizes a wide range of tools for Web site development. Tool selection is at the option of the agency. ITS supports Web application server development tools from Sun™, IBM™, and Oracle™ on an enterprise level.

5.0 Reporting and Monitoring

- 5.1 *Web Site Statistics:* Agencies should monitor Web site usage. WebTrends™ administered by Information Technology Services (ITS) can be utilized by agencies to produce detailed site reports. Other similar reporting environments are available in some agencies. Each site should maintain statistics on the following:

- Number of hits by units of time.
- Number of user sessions.
- Duration of user sessions.
- Browser types and distribution using the Agency Web site.

6.0 Site Hosting

- 6.1 *Web Site Backups:* All Web sites should be backed up on a daily or more frequent basis. Plans for recovery of the Web site should be documented and approved by agency management.
- 6.2 *Web Site Hosting:* Agencies can host Web sites within their own server environment or sites can be hosted by ITS. In either cases provision should be made for a high reliability and high availability server environment. Agency Web sites should be available on a 24 X 7 basis.
- 6.3 *Web Site Server Reliability:* Web Sites must be monitored for reliability and accessibility.
- 6.4 *Web Site Server Accessibility:* Agency Web sites are to be accessible to State search engines such as Yeehaw.

7.0 Site Security

- 7.1 *Public Key Infrastructure (PKI):* All digital signature applications required on agency Web sites should use approved Digital Signature Trust (DST) certificates and related development and implementation tools.
- 7.2 *State Internet Security:* The State of Utah uses SSL certificates for encryption requirements on public and Intranet Web sites. All agency servers should be deployed behind a secure firewall environment. Enterprise Web servers are protected by a Cisco PIX firewall. SiteMinder™ is utilized as an authentication mechanism for public user groups that require authentication. Other specialized authentication approaches for public users may be implemented at the option of the agency.
- 7.3 *State Intranet (InnerWeb) Security:* The State of Utah has standardized on SiteMinder™ as a single sign-on (SSO) and authentication environment for InnerWeb sites and Web applications. All agency InnerWeb sites and applications are encouraged to utilize this security environment. Minimum-security levels require an NDS login and password.

8.0 User Interface

- 8.1 *Browser Access:* All agency Web sites must be accessible using current distributed versions of Netscape, Internet Explorer and AOL as minimum browser environments. Agencies should design sites to use the most common browser environments used by the target audience for the Web site.
- 8.2 *Page Formatting:* Agency Web pages should be viewable without horizontal scrolling on an 800 X 600 pixel screen display unless the page is specifically designed for horizontal scrolling such as panoramic pictures, maps, and other large format documents.
- 8.3 *Page Size:* Page sizes should be scaled to provide less than 8-second page downloads when tested against the most prevalent access environment of the target audience for the Web site.

- 8.4 *Plug-ins:* Agency Web sites that require browser plug-ins such as Real Video™, Adobe Acrobat Viewer™, etc. should identify the plug-in required on their Web site and provide a link to where the user can download the plug-in.
- 8.5 *Cookie Requirements:* Agency Web sites with public audiences that do not require authentication should generally avoid using cookies. InnerWeb sites for agency use and public Web sites requiring user authentication and tracking should use non-persistent cookies. Agency personnel using the State InnerWeb environment must have cookies enabled in their browser configurations.
- 8.6 *JavaScript:* Many State Web applications use JavaScript and/or Java applets on the Web site. All browser versions in use by State agencies must be Java enabled to utilize either JavaScript or Java element features on the Web site. This function must not be disabled on Agency employee browser configurations.

Appendix A. Web Site Disclaimer Statement
(Approved by the ITPSC, November 17, 1998)

THIS INFORMATION IS MADE AVAILABLE AS A FREE PUBLIC SERVICE, WITHOUT EXPRESS OR IMPLIED WARRANTIES OF ANY KIND, AND SUBJECT TO THE FOLLOWING DISCLAIMERS:

1. **ACCURACY AND CONTINUITY OF SERVICE.** The State makes no guarantee of the completeness or accuracy of any information provided. It makes no promise or warranty to maintain or update this public service or information contained and made available to the public. The State may suspend or discontinue this service at any time, or it may elect to charge a fee for access or use. The user assumes the risk of verifying any materials used or relied on.
2. **NO WARRANTIES.** The State disclaims any express or implied warranty in providing for public use its computer system and any materials, information, graphics, products, or processes contained therein. It makes no warranty, express or implied, nor assumes any responsibility in the use of this service or its contents for its accuracy, completeness, currency, its use for any general or particular purpose, nor that such items or use of such items would not violate or infringe rights of others. This service is provided on a strictly "as is" basis.
3. **EXTERNAL LINKS; PERSONAL OPINIONS.** State computer resources and materials may contain hypertext or other links to Internet of computer sites, not owned or controlled by the State, that may be of interest. Links to other computer systems are not supervised nor regularly reviewed by the State. Any information, endorsements of products or services, materials or personal opinions appearing on such external sites is not controlled, sponsored ~~not~~ nor approved by the State. The State specifically disavows legal responsibility for what a user may find on another site, or for personal opinions of individuals posted on any site, whether or not operated by the State, established for the purpose of permitting free exchange of personal opinions or a "town hall" discussion.
4. **COPYRIGHT LIMITATIONS.** The State has made the content of these pages available to the public and anyone may view, copy or distribute information found here without obligation to the State, unless otherwise stated on particular materials or information to which a restriction on free use may apply. However, the State makes no warranty that materials contained herein are free of Copyright claims or other restrictions or limitations on free use or display.
5. **ASSUMPTION OF RISK OF USE.** A user of the State's computer system for information made available for public use assumes the risk of use or reliance on such information.

Neither the State, its employees or agents shall be liable for any damages for viewing, distributing or copying of materials on its sites made available to the public, including indirect, special, incidental, or consequential damages, even if advised of the possibility of such damages.

6. **MONITORING OF SYSTEM.** All State computer systems are subject to monitoring at all time to assure proper functioning of the systems, to provide security for the computer system's operation and information contained, to prevent unauthorized use, and to deter and investigate violations of law.
7. **UTAH LAW AND JURISDICTION.** The materials are provided for public use on computer systems located within the State of Utah and for the use and benefit of citizens of Utah. Any person choosing to use this system or seeking access to information or materials on this system is subject to Utah jurisdiction. Any dispute arising there from shall be decided under the laws and in the courts in Utah.

Appendix B. Privacy Statement

(As approved by the ITPSC, January 20, 2000)

PURPOSE

The purpose of the statement is to inform users of this site with regard to the collection and use of personally identifiable information.

DEFINITION OF PERSONALLY IDENTIFIABLE INFORMATION

For the purposes of this statement "personally identifiable information" means any information relating to an identified or identifiable individual who is the subject of the information.

PERSONALLY IDENTIFIABLE INFORMATION NOT ROUTINELY COLLECTED

Citizens do not have to routinely provide personal information to visit e-Utah Web sites or to download information. Government agencies may request personally identifiable information from you in order to provide requested specialized services, but such information is handled as it would be on an in-person visit to a government office.

PERSONALLY IDENTIFIABLE INFORMATION AVAILABLE FROM GOVERNMENTAL WEB SITES

Access to personally identifiable information in public records at state and local levels of government in Utah is controlled primarily by Chapter 2, Title 63 of the Utah Code, the law entitled the Government Records Access and Management Act. Information that is generally available under Chapter 2 - and not made confidential elsewhere in the Utah Code may be posted for electronic access through e-Utah. While Chapter 2 sets the general policies for access to government records in the state of Utah, other sections of the Utah Code as well as other federal laws also deal with confidentiality issues.

The IP (Internet Protocol) numbers of computers (servers) used to visit e-Utah sites are noted as part of our statistical analysis on use of our web sites so we may better design services and improve access to them. However, the site does not attempt to gain personally identifiable information on individual users and associate them with IP addresses.

USE OF CONSTITUENT E-MAIL ADDRESSES

E-mail addresses obtained as a result of a request to the state site will not be sold or given to other private companies for marketing purposes. The information collected is subject to the access and confidentiality provisions of Chapter 2, other applicable sections of the Utah Code or federal law. E-mail or other information requests sent to the state web site may be maintained in order to respond to the request, forward that request to the appropriate agency, communicate updates to the state page that may be of interest to citizens, or to provide the state web designer

with valuable customer feedback to assist in improving the site. Individuals will be provided with the ability "opt out" at anytime of any communications regarding new service updates.

DATA SECURITY AND QUALITY

e-Utah is committed to data security and the data quality of personally identifiable information that is either available from or collected by governmental web sites, and has taken reasonable precautions to protect personally identifiable information from loss, misuse or alteration. Any third parties responsible for this information are committed to the same principles, and also are required by contract to follow the same policies and guidelines as the state of Utah in protecting this information. Unless otherwise prohibited by state or federal law, rule or regulation the individual is granted the ability to access and correct personally identifiable information whether or not the information inaccuracy was accidental or by created unauthorized access.

NON STATE WEB SITES

Various Web sites may be linked through [agency Web sites]. Many of these sites including private sector sites are not subject to Chapter 2 and may also not be subject to other sections of the Utah Code or federal law. Visitors to those sites are advised to check the privacy statements of these sites and be cautious about providing personally identifiable information without a clear understanding of how the information will be used. Visitors may also wish to consult privacy guidelines such as those recommended by the Online Privacy Alliance at <http://www.privacyalliance.org/resources/ppguidelines.shtml>.

Appendix C. Term Definitions

Agency Web Site: An agency server location that contains Web pages and other files which is online to the Internet 24 hours a day. Agency Web sites are the responsibility of the hosting agency. Sites may be hosted by the agency or on an enterprise level at Information Technology Services (ITS).

Alt Tag: (Alternate Text Tag) allows the Web site developer to specify alternate text to display in place of the image when image-display is disabled or not available in the Web browser. Some Web browsers also display the alternate text while the image is loading.

AOL: (America Online, Inc., www.aol.com) is the world's largest online information service with access to the Internet, e-mail, chat rooms and a variety of databases and services.

Cookie: Data created by a Web server that is stored on a user's computer is a persistent cookie. A non-persistent cookie stores data in memory and disappears after a pre-set time limit or when the browser is closed. Cookies provide a way for the Web site to keep track of a user's patterns and preferences and, with the cooperation of the Web browser, to store them on the users own hard disk.

CSS: (Cascading Style Sheet) is a style sheet format for HTML documents endorsed by the World Wide Web Consortium.

e-Utah: e-Utah is the official Web site of the State of Utah.

Home Page: The first page retrieved when accessing a Web site. It serves as a table of contents to the rest of the pages on the site or to other Web sites.

HTML: (HyperText Markup Language) is the document format used on the World Wide Web. Web pages are built with HTML tags, or codes, embedded in the text. HTML defines the page layout, fonts and graphic elements as well as the hypertext links to other documents on the Web.

Image Map: A single picture image that is logically separated into areas, each of which is used to select a different option or display a different message when clicked. It is widely used on the Web to provide a navigation bar to link to other topics (pages) on the site.

InnerWeb: The official State of Utah Intranet site accessible by all agencies of State government.

IntraNet Site: An internal agency or statewide internal Web site that serves the employees of the enterprise. Although intranet pages may link to the Internet, an intranet is not a site accessed by the general public.

ITPSC: (Information Technology Policy and Strategy Committee) is the committee designated in the *Utah Code 63D-1-302* to "evaluate and approve or disapprove information technology policies, procedures, and standards to govern the operation of information technology" in the executive branch of government.

Java: A programming language for writing client and server applications for the Web. Java programs can be called from within HTML documents or launched stand-alone. When a Java program runs from a Web page, it is called a "Java applet." When a Java program is run on the Web server, it is called a "servlet."

JavaScript: A popular scripting language that is widely supported in Web browsers and other Web tools. It deals mainly with the elements on the Web page. On the client, JavaScript is maintained as source code embedded into an HTML document. On the server, it is compiled into bytecode (intermediate language), similar to Java programs.

Link: An address (URL) to another document on the same server or on any remote server.

Meta Tag: An HTML tag that identifies the contents of a Web page. Using a <meta name=" " content=" " "> format, meta tags contain such things as a general description of the page, and keywords for search engines.

PIX: A family of network firewalls from Cisco. PIX units are high-performance, stand-alone devices that contain their own embedded operating systems.

PKI: (Public Key Infrastructure) is a system for publishing the public key values used in public key cryptography. Also a system used in verifying, enrolling, and certifying users of a security application. All PKIs involve issuing public key certificates to individuals, organizations, and other entities and verifying that these certificates are indeed valid.

SISC: (State Information Security Committee) is a subcommittee of the ITPSC responsible for overall State of Utah security policy and related security architecture.

SiteMinder™: A software product that enables management of user access to Web sites.

URL: (Uniform Resource Locator) is the address that defines the route to a file on the Web or any other Internet facility.

W3C: (World Wide Web Consortium, www.w3.org) is an international industry consortium founded in 1994 to develop common standards for the World Wide Web.

Web: In the context of this document Web refers to an Internet facility that links documents locally and remotely. Public (Internet) and private (Intranet) environments are considered as the Web unless referenced separately.

WebTrends™: A software product that provides management information and statistics on Web site utilization and performance.

XML: (Extensible Markup Language) is an open standard for describing data from the W3C. It is used for defining data elements on a Web page and business-to-business documents. It uses a similar tag structure as HTML; however, whereas HTML defines how elements are displayed, XML defines what those elements contain.

Yeehaw: A search engine provided by the State for use with State agency Web sites.

References:

Interim Date: September 13, 2000

Organization Sponsoring the Standard: Web Standards Work Group

State Technical Architect Approval Date: Pending

CIO Approval Date: Pending

ITPSC Presentation Date: October 19, 2000

Author(s): Robert Woolley and Web Standards Work Group members